

Title (en)

STEERING HUB SYSTEM DRIVEN BY BALL JOINT UNIVERSAL ROTARY MOTOR

Title (de)

DURCH KUGELGELENK-UNIVERSALROTATIONSMOTOR ANGETRIEBENES LENKNABENSYSTEM

Title (fr)

SYSTÈME DE MOYEU DE DIRECTION ENTRAÎNÉ PAR UN MOTEUR ROTATIF UNIVERSEL À JOINT À ROTULE

Publication

EP 3430710 A4 20190227 (EN)

Application

EP 17765685 A 20170222

Priority

- CN 201610150927 A 20160316
- CN 201610455022 A 20160620
- US 201615332248 A 20161024
- CN 2017074352 W 20170222

Abstract (en)

[origin: US2017040861A1] The invention provides a steering hub system driven by a ball joint universal rotary motor, including a hub body and a connection mechanism. The hub body is connected to a vehicle suspension via the connection mechanism. The hub body includes a ball joint universal rotary motor inside; the ball joint universal rotary motor includes a rotatable spherical shell-shaped rotor body having an opening, a spherical stator body disposed within the rotor body and connected to the connection mechanism, a first coil assembly and a second coil assembly both wound on the spherical stator body; when the first coil assembly is energized, the spherical shell-shaped rotor body rotates with respect to a first axis of the spherical stator body, and when the second coil assembly is energized, the spherical shell-shaped rotor body rotates with respect to a second axis of the spherical stator body, the first axis is not identical to the second axis. A sealing block is disposed at the opening of the spherical shell-shaped rotor body. The motor is a self-starting synchronous servo permanent magnet motor having wide range of stepless speed variation, self-steering power and dustproof ability, and the steering of the motor is sensitive, accurate, smooth, reliable, and convenient for operation, and the steering angle is large.

IPC 8 full level

H02K 7/00 (2006.01); **B60K 7/00** (2006.01); **B62D 5/04** (2006.01); **H02K 1/12** (2006.01); **H02K 1/16** (2006.01); **H02K 1/27** (2006.01); **H02K 3/28** (2006.01); **H02K 5/10** (2006.01); **H02K 7/14** (2006.01); **H02K 11/215** (2016.01); **H02K 15/02** (2006.01); **H02K 15/08** (2006.01); **H02K 21/22** (2006.01); **H02K 26/00** (2006.01); **B60K 1/00** (2006.01)

CPC (source: CN EP US)

B62D 5/0403 (2013.01 - CN); **B62D 5/0418** (2013.01 - CN); **B62D 5/0421** (2013.01 - US); **B62D 7/18** (2013.01 - CN); **B62D 15/00** (2013.01 - EP US); **H02K 1/12** (2013.01 - EP US); **H02K 1/165** (2013.01 - CN); **H02K 1/2791** (2022.01 - CN EP US); **H02K 3/28** (2013.01 - CN); **H02K 5/10** (2013.01 - CN); **H02K 7/006** (2013.01 - CN); **H02K 7/14** (2013.01 - EP US); **H02K 11/215** (2016.01 - EP US); **H02K 15/0037** (2013.01 - CN); **H02K 15/02** (2013.01 - EP US); **H02K 15/026** (2013.01 - CN); **H02K 15/08** (2013.01 - EP US); **H02K 21/22** (2013.01 - EP US); **H02K 26/00** (2013.01 - EP US); **H02K 2201/03** (2013.01 - EP US); **H02K 2201/09** (2013.01 - CN); **H02K 2201/18** (2013.01 - EP US); **H02K 2213/03** (2013.01 - CN)

Citation (search report)

- [A] WO 2006030532 A1 20060323 - HITACHI LTD [JP], et al
- [A] US 2014125153 A1 20140508 - HO KUOKWA [CN]
- [E] EP 3249794 A2 20171129 - HONEYWELL INT INC [US]
- [A] CN 104836408 A 20150812 - BEIJING INST MECH EQUIPMENT
- See references of WO 2017157143A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

US 2017040861 A1 20170209; **US 9845107 B2 20171219**; CN 105703528 A 20160622; CN 106160322 A 20161123; CN 106160322 B 20180612; EP 3430710 A1 20190123; EP 3430710 A4 20190227; EP 3430710 B1 20200212; WO 2017157143 A1 20170921

DOCDB simple family (application)

US 201615332248 A 20161024; CN 201610150927 A 20160316; CN 201610455022 A 20160620; CN 2017074352 W 20170222; EP 17765685 A 20170222